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## Imperatives for T&E Change Must Come From Within

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*“The future ain’t what it used to be.” —Yogi Berra*

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Okay, I borrowed a line from Yogi Berra because of its particular relevance to today’s stance and balance of test and evaluation (T&E).

While that sentiment is not new, the demands for change in test and evaluation (T&E) occurring right now are significant. And, the future for T&E will emerge to be quite different than previously predicted. Why? Consider these significant examples: (1) The systems acquisition and associated T&E process has changed during wartime and is unlikely to return to the traditional process when the war is over; (2) Business transformation demands more efficiency in T&E processes *now*; and (3) Networked testing requires the testers to rely on each other as opposed to staying in traditional Service, local test range or developmental test (DT)/operational test (OT) domains.

Each of these changes causes discomfort to those with extensive T&E experience. Yet each change is undeniably happening, and every tester or evaluator I have ever met has had the same primary mission: to get the best equipment fielded for the warfighters.

How, then, do we execute our primary mission as the urgency to rapidly field solutions for the war in Iraq and Afghanistan continues to grow? How do we accomplish this in the face of dramatically lowered budget forecasts, and as our revered independence is reduced in recognition that no stand-alone test range or organization can go it alone and still meet the requirements for tomorrow’s systems-of-systems networked T&E requirements? Well, the imperatives for T&E change *must come from within*. T&E leadership down to the lowest levels must drive the process, business, cultural and organizational changes required to meet these demands.

These changes cannot be met by procedural adjustments or by increased reimbursements from weapons pro-

grams. Nor can they be met solely by technology innovation or by increasing investments. The Office of the Secretary of Defense (OSD) will provide the necessary policy framework, budget numbers and requisite support; but the onus is on the leaders in the field to transform *now* to a more flexible, responsive and efficient T&E capability to support the warfighter—today’s and tomorrow’s. Much progress in the Army is already underway.

### Acquisition and T&E

T&E information has, for decades, provided the necessary information that milestone decision authorities need in order to determine which weapons systems get fielded when, and to whom. This is still true, with a notable exception that, at least for the Army, the traditional customer base (the Program Managers [PMs]/Program Executive Offices [PEOs]) is shifting also to include direct requests from users in the theater of war.

To respond to these theater requests, the Army Test and Evaluation Command (ATEC) has established a Forward Operational Assessment (FOA) team in Iraq comprising military operational testers *and* civilian developmental testers.

Now on its fifth rotation, the subject matter expertise resident in this team is able to directly relay materiel needs from the fight to the test ranges. Further, this team has the ability to conduct limited testing in theater, which is typically augmented by more extensive stateside T&E.

Is this OT/DT FOA type of teaming a template for the future? Perhaps. At a minimum, it is demonstrative of how the combined T&E resources in ATEC can reconfigure on short notice to provide meaningful weapons performance information to an Army at war. But to a greater extent, it demonstrates what can be accomplished by combining OT and DT test resources where the action is, where the sol-



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diers are and where the new equipment is. It is immaterial which organization provides which resources to do this. What matters is that it is helping the Army. It is not an overstatement to say that ATEC's initiative to deploy a FOA team and to adopt a rapid T&E process has saved lives. And this success has been decidedly dependent on OT and DT expertise working seamlessly and continuously side-by-side.

Expedient acquisition to address user requests in theater does cause major concerns, such as limited safety and performance testing before fielding, little to no OT and, often, fielding without *any* testing. Without accompanied PM/PEO sponsorship, equipment can be fielded without the training and logistics support to keep it usable. Some of this discomfort on the part of the T&E community is surely also felt within the acquisition community. But the shift in the traditional customer base to now include the user in the field has caused us to modify the T&E processes. While we desire a much more robust T&E process for equipment urgently needed in theater, we have shown both the agility to respond, as well as the talent to assist in the design and proof of solutions, making the return to the days of a slower-paced, deliberate acquisition and sequential DT/OT process an unlikely future.

### **Business transformation**

In the Army, the newest efficiency and quality program is Lean 6 Sigma. It is a mandatory endeavor for every Army major command. But Lean 6 Sigma is only the latest tool. Full cost visibility and employment of business approaches to T&E have been recurring themes from Congress and OSD for years. The demand to identify and reduce costs is here to stay.

Army funds must now cover personnel and equipment for the current war, make the current force modular, re-station troops stateside from around the globe, execute the Base Realignment and Closure (BRAC) initiative, and modernize future weapons systems while also recapitalizing the equipment worn out in Iraq. And, the top line for all Army funding is projected to be reduced dramatically in the 2008-2013 time frame. Future T&E resources surely will differ from those of the past decade.

So, how does T&E adapt, especially since T&E workload in the Army is approaching its highest levels ever? The demand for testing while the war continues will not likely abate. I would offer that uniform accounting principles, increased reliance on contractor personnel and resourcing only those missions and facilities that demonstrate customer demand can significantly reduce T&E costs.

The National Defense Authorization Act of 2003 requires precise accounting for all direct and indirect test

costs at the Major Range and Test Facility Bases. Standard definitions of test versus test support functions are in place across ATEC's test ranges. Standard definitions of which functions can be reimbursed by customers vice those functions covered by institutional funds drive the financial allocation process beginning this fiscal year. Additionally, we have undertaken an internal endeavor to track *every* dollar provided to our ranges and *every* hour worked.

We are also nearing standardization across all test ranges in civilian/contractor personnel ratios, in institutional/reimbursement funding ratios and in test/test overhead ratios. The goal is twofold: (1) to identify all labor costs, facility costs and other costs associated with executing the T&E mission; and (2) to consistently provide resources to the test ranges per industrial norms driven by workload demand. By the end of Fiscal Year 2006, we will have one complete year's worth of data available to drive command decisions regarding what labor is resourced; what facilities will be modernized, sustained or mothballed; and what missions may be affordable or unaffordable depending on budget changes. The Lean 6 Sigma methodology is in place *now* for the Army's DT ranges.

### **Networked T&E**

Acquiring the weapons and equipment to provide a networked joint fighting force requires T&E from all Services. The materiel under test will have different Service owners brought together in some type of live/virtual/constructive event, and the network interfaces must enable a common understanding of the system's performance and the test events. This means that all Services must have a common data language, connectivity and integrated range control, even though geographically distributed. So, at a minimum, DT ranges must be able to interoperate across range and Service boundaries. There is an expectation also that the quality and repeatability of all testing meets a consistently high standard, given the high costs that will be associated with these complex tests. There is no margin for a test execution error, for these types of tests and joint test protocols will be required.

In the Army's Future Combat Systems (FCS) technical field test planning, the live experimental events are planned to occur at White Sands Missile Range, New Mexico, but all Army DT test ranges will support remotely via a distributed network. The larger DT and OT tests also are planned to occur at White Sands, thereby taking advantage of available resources, both on-site and distributed. With the Evaluation Brigade Combat Team also onsite, the networked experiments, DT, OT and training will share available resources and minimize both cost and time. This scenario requires not only a seamless DT/OT sharing of

resources, but also a seamless testing/training partnership. This is the likely template for the future of how T&E fits into networked systems acquisition.

### Conclusion

All of these points can only be accomplished if driven by today's, not tomorrow's, T&E leaders. For each Army initiative I have addressed, substantial resistance has already been overcome en route to implementation. Our T&E mission focus cannot be solely on meeting budget reductions, complying with efficiency initiatives or looking out for local interests. The focus of T&E for the future must recognize what *all* test organizations bring to bear on common problems. No matter which T&E organization is involved, partnerships with others is *the* key to that organization's future relevance. What *is* important is not which test organization is in charge of which test event, it is how well the various T&E resources of an organization are combined with others to execute the requisite T&E. It is not just the testing of networks that needs our attention—it is the networking of the testers and their test resources as well. This is where the leaders of T&E must focus. □

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